

Sign-Advancetech Development

Ethernet TCP/IP with Microcontroller SAT51XX.NET Series User' Manual



Chapter 3: System Development

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The microcontroller is a T89C51AC2, running at either 18.432 MHz or 36.842 MHz in X2 mode. The T89C51AC2 has one asynchronous serial port.

Interface Description

The Ethernet Modules physical interface to SAT5LXX.NET Series is a 13-Pin single Header (HD1), 13-Pin single Header (HD2) and RJ-45 connect to UTP cable Network. Figure 3.4 Shows the location of single Header HD1, HD2 and RJ-45

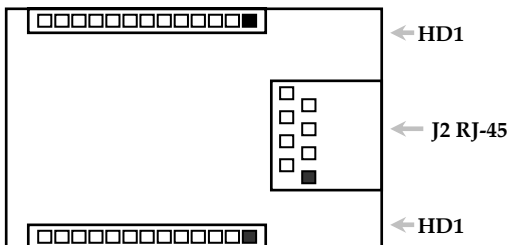


Figure 3.4 Location of single Header HD1, HD2 and RJ-45.

The 13-Pin single Header 1 (HD1) and 13-Pin single Header (HD2) plugs directly into a 13-Pin single connector on the controller's printed circuit board. The headers use 0.025" square pins on 0.1" centers. And RJ-45 connects to UTP cable network

Figure 3.5 provides the pinouts for header HD1, HD2 and RJ-45.

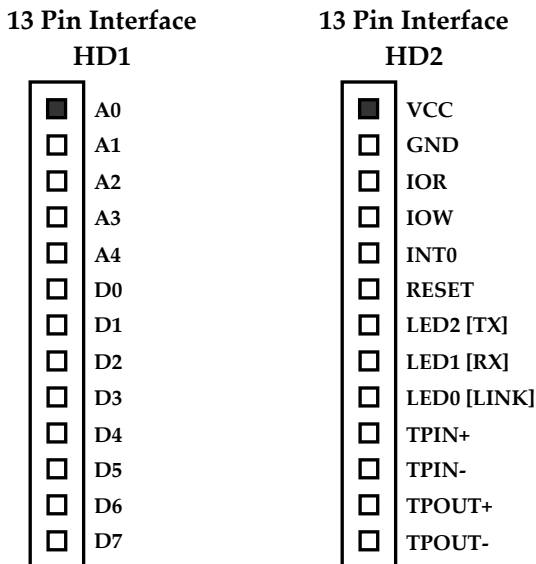


Figure 3.5 Ethernet Modules pinouts for header HD1, HD2 RJ-45

Table 3.1 lists the Ethernet Modules interface signals.

Signal Name	Direction	Description
A0-A4	In	Address line. TTL/CMOS compatible
D0-D7	Bi.	Data line. TTL/CMOS compatible
IOR	In	Read. Defines a read cycle Directly connected to RTL8019AS TTL/CMOS compatible.
IOW	In	Write. Defines a read cycle Directly connected to RTL8019AS TTL/CMOS compatible.
RESET	Bi.	System Reset. Connect to the Switch Reset.
LED2[TX]	Out	LED Shows transmitting Data
LED1[RX]	Out	LED Shows Receiving Data
LED0[LINK]	Out	LED Shows status Ethernet link
TPIN+, TPIN-	In	Receive. connect network to 10-Base T LFP 20F001N
TPOUT+, TPOUT-	Out	Transmit. connect network to 10-Base T LFP 20F001N
VCC	IN	POWER +5DC
GND	IN	GROUND
RJ-45	Bi.	Connect to UTP RJ-45 Cable Network

Ethernet Communication Ports

The SAT51XX.NET series Ethernet Ports has a 10 Mbps supported RJ-45 Females connector. Figure 3.6 Ethernet connector RJ-45

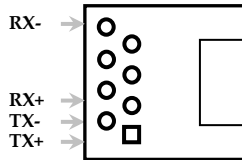


Figure 3.6 Ethernet connector RJ-45

Table 3.2 lists the RJ45 Females at the signals network interface

Signal Name	Dir	Description	RJ-45 Female
TX+	OUT	Transmit Data+	1
TX-	OUT	Transmit Data-	2
RX+	IN	Receive Data+	3
n/c	-	Not connected	4
n/c	-	Not connected	5
RX-	IN	Receive Data-	6
n/c	-	Not connected	7
n/c	-	Not connected	8

Chapter 4: Specifications

Chapter 4: Specifications

Electrical and Mechanical Specification

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Electrical and Mechanical Specification
General Specifications
Table 4.1 *General Specifications*

<i>Parameter</i>	<i>Specifications</i>
<i>SAT5100.NET Board Size</i>	<i>3.00" x 3.50" x 0.85"</i>
<i>SAT5101.NET Board Size</i>	<i>3.50" x 4.50" x 0.85"</i>
<i>SAT5102.NET Board Size</i>	<i>3.50" x 4.50" x 0.85"</i>
<i>Operating Temperature</i>	<i>0 °C - 55 °C</i>
<i>Power</i>	<i>5 VDC, 150 mA.</i>
<i>CPU</i>	<i>T89C51AC2</i>
<i>Clock</i>	<i>18.432 MHz mode 2x run 36.864 MHz</i>
<i>SRAM</i>	<i>1-Kbyte of On-chip ERAM</i>
<i>Flash Program Memory</i>	<i>32K bytes of On-chip Flash Memory</i>
<i>EEPROM</i>	<i>2K Bytes of On-chip EEPROM 2K Bytes of I2C EEPROM</i>
<i>Watchdog</i>	<i>Yes Internal On chip</i>
<i>Serial Ports</i>	<i>One serial asynchronous</i>
<i>Baud Rate</i>	<i>Up to 115,200 bps</i>
<i>Ethernet</i>	<i>10 Base-T Full Duplex</i>
<i>LCD Display</i>	<i>16x2 (SAT5101.NET Only)</i>
<i>OPTO Input</i>	<i>4 Input (SAT5102.NET Only)</i>
<i>RELAY Output</i>	<i>4 Output (SAT5102.NET Only)</i>